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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,354	10/29/2003	Brian Harold Kelley	030622	7523

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EXAMINER
SHERKAT, AREZOO

ART UNIT	PAPER NUMBER
2131	

NOTIFICATION DATE	DELIVERY MODE
07/19/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/697,354	KELLEY ET AL.
Office Action Summary	Examiner	Art Unit	
	Arezoo Sherkat	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 April 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 10-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Amendment

This office action is responsive to Applicant's amendment received on 4/22/2007.

Claims 1, 6, 10, 15, and 24 are amended. Claims 1-26 remain pending.

Response to Arguments

Applicant's arguments filed 4/22/2007 have been fully considered but they are

not persuasive.

Applicant argues that "None of the prior art teaches a device that is set during

initialization to operate in either one mode or the combination of modes. The Office

Action asserts that Ellison teaches dual mode operation set up during device

initialization. However, Ellison teaches a device operates in a dual mode at all time. As

shown in Figure 1B of Ellison, as described in column 5, lines 26-56, Ellison teaches the

processor allowing some applications to operate in the isolated area and others to

operate in the non-isolated area. Ellison never teaches an initialization that locks the

device into one of the two modes (Remarks, page 7-8).

Examiner respectfully contends that Ellison does disclose wherein the logical

operating architecture 50 includes ring-0 10, ring-1 20, ring-2 30, ring-3 40, and a

processor nub loader 52. The processor nub loader 52 is an instance of a processor

executive (PE) handler. The PE handler is used to handle and/or manage a processor

executive (PE). The logical operating architecture 50 has two modes of operation:

normal execution mode and isolated execution mode (i.e., wherein the logical operating

architecture 50 is an abstraction of the components of an operating system and the

processor/device and the logical operating architecture 50 is inherently configured/set

during device initialization)(col. 3, lines 1-10).

Ellison further discloses wherein when the lock control word 712 is asserted (i.e.,

the lock control word is set in enable state), the locker protects the configuration storage

610 from being written or modified (col. 13, lines 21-49).

Applicant's disclosure as currently claimed is:

"determining during the device initialization whether the device is to operate

either in the privileged mode *or* in both the privileged and non-privileged modes; and

enabling the privileged mode if it is determined that the device is to operate only

in the privileged mode; **or**

enabling both the privileged and the non-privileged modes if it is determined that

the device is to operate in both the privileged and the non-privileged modes, wherein

programs operating in the privileged mode have unlimited access to device memory

and/or device functions and programs operating in the non-privileged mode have limited

access to device memory and/or device functions" (Applicant's disclosure, claim1).

Examiner further emphesizes that Ellison's disclosure does include setting the

logical operating architecture 50 so the device is operable in both normal execution

mode (i.e., non-privileged mode) and isolated execution mode (i.e., privileged mode).

Therefore, Ellison discloses determining during the device initialization whether the

device is to operate in both the privileged and non-privileged modes, and enabling both

the privileged and the non-privileged modes if it is determined that the device is to

operate in both the privileged and the non-privileged modes, wherein programs

operating in the privileged mode have unlimited access to device memory and/or device

functions and programs operating in the non-privileged mode have limited access to

device memory and/or device functions (Ellison's disclosure).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-5 and 10-23 are rejected under 35 U.S.C. 102(e) as being anticipated

by Ellison et al., (U.S. Patent No. 6, 795,905 and Ellison hereinafter).

Regarding claim 1, Ellison discloses a method for selectively enabling operating

modes of a device during a device initialization (col. 11, lines 25-45), wherein the

operating modes comprise a privileged mode (i.e., isolated execution mode) and a non-privileged mode (i.e., normal execution mode)(col. 4, lines 13-25), and the method comprising:

determining during the device initialization whether the device is to operate in either the privileged mode or in both the privileged and non-privileged modes (col. 3, lines 45-67 and col. 4, lines 1-10), and enabling both the privileged (i.e., isolated) and the non-privileged (i.e., normal) modes if it is determined that the device is to operate in both the privileged and the non-privileged modes (col. 2, lines 47-50 and col. 3, lines 6-9)(i.e., Access to an accessible physical memory 60 is governed according to their ring hierarchy and the execution mode. ... the isolated area is accessible only to elements of the operating system and processor operating in an isolated execution mode. The non-isolated area 80 is accessible to all elements of the ring 0 operating system and to the processor), wherein programs operating in the privileged mode have unlimited access to device memory and/or device functions (i.e., the isolated execution ring-0 15, including the operating system nub 16 and the processor nub 18, can access both of the isolated area 70, including applet pages 72 and the nub pages 74, and the non-isolated area 80, including the application pages 82 and the operating system pages 84) and programs operating in the non-privileged mode have limited access to device memory and/or device functions (i.e., the normal execution ring-0 11, including the primary operating system 12 and software drivers 13, and hardware drivers 14, can access both of the non-isolated area 80, including the application pages 82 and the

operating system pages 84, but cannot access the isolated area 70)(col. 4, lines 10-45

and col. 12, lines 5-41).

Regarding claim 10, Ellison discloses an apparatus for selectively enabling

operating modes of a device during a device initialization (col. 11, lines 25-45),

operating modes comprise a privileged mode (i.e., isolated execution mode) and a non-

privileged mode (i.e., normal execution mode)(col. 4, lines 13-25), and the apparatus

comprising:

means for determining during the device initialization whether the device is to

operate in either the privileged mode or in both the privileged and non-privileged modes

(col. 3, lines 45-67 and col. 4, lines 1-10), and

means for enabling both the privileged (i.e., isolated) and the non-privileged (i.e.,

normal) modes if it is determined that the device is to operate in both the privileged and

the non-privileged modes (col. 2, lines 47-50 and col. 3, lines 6-9)(i.e., Access to an

accessible physical memory 60 is governed according to their ring hierarchy and the

execution mode. ... the isolated area is accessible only to elements of the operating

system and processor operating in an isolated execution mode. The non-isolated area

80 is accessible to all elements of the ring 0 operating system and to the processor),

wherein programs operating in the privileged mode have unlimited access to device

memory and/or device functions (i.e., the isolated execution ring-0 15, including the

operating system nub 16 and the processor nub 18, can access both of the isolated

area 70, including applet pages 72 and the nub pages 74, and the non-isolated area 80,

including the application pages 82 and the operating system pages 84) and programs

operating in the non-privileged mode have limited access to device memory and/or

device functions (i.e., the normal execution ring-0 11, including the primary operating

system 12 and software drivers 13, and hardware drivers 14, can access both of the

non-isolated area 80, including the application pages 82 and the operating system

pages 84, but cannot access the isolated area 70)(col. 4, lines 10-45 and col. 12, lines

5-41).

Regarding claim 15, Ellison discloses a computer-readable media comprising

instructions, which when executed by a processor in a device, operate to selectively

enable operating modes of a device during a device initialization, wherein the operating

modes comprise a privileged mode and a non-privileged mode, and the computer-

readable media comprising:

instructions for determining during the device initialization whether the device is

to operate in either the privileged mode or in both the privileged and non-privileged

modes (col. 3, lines 45-67 and col. 4, lines 1-10), and

instructions for enabling both the privileged (i.e., isolated) and the non-privileged

(i.e., normal) modes if it is determined that the device is to operate in both the privileged

and the non-privileged modes (col. 2, lines 47-50 and col. 3, lines 6-9)(i.e., Access to an

accessible physical memory 60 is governed according to their ring hierarchy and the

execution mode. ... the isolated area is accessible only to elements of the operating

system and processor operating in an isolated execution mode. The non-isolated area

80 is accessible to all elements of the ring 0 operating system and to the processor),

wherein programs operating in the privileged mode have unlimited access to device

memory and/or device functions (i.e., the isolated execution ring-0 15, including the

operating system nub 16 and the processor nub 18, can access both of the isolated

area 70, including applet pages 72 and the nub pages 74, and the non-isolated area 80,

including the application pages 82 and the operating system pages 84) and programs

operating in the non-privileged mode have limited access to device memory and/or

device functions (i.e., the normal execution ring-0 11, including the primary operating

system 12 and software drivers 13, and hardware drivers 14, can access both of the

non-isolated area 80, including the application pages 82 and the operating system

pages 84, but cannot access the isolated area 70)(col. 4, lines 10-45 and col. 12, lines

5-41).

As per claim 20, Ellison discloses a method for selectively enabling operating

modes of a device, comprising:

determining during the device initialization whether the device is to operate in at

least one of a privileged mode and a combined privileged and non-privileged mode (col.

3, lines 45-67 and col. 4, lines 1-10), and

enabling the combined privileged and non-privilege mode for each determination

that the device is to operate in the combined privileged and non-privileged mode (col. 2,

lines 47-50 and col. 3, lines 6-9)(i.e., Access to an accessible physical memory 60 is

governed according to their ring hierarchy and the execution mode. ... the isolated area

is accessible only to elements of the operating system and processor operating in an

isolated execution mode. The non-isolated area 80 is accessible to all elements of the

ring 0 operating system and to the processor), wherein programs operating in the

privileged mode have unlimited access to device memory and/or device functions (i.e.,

the isolated execution ring-0 15, including the operating system nub 16 and the

processor nub 18, can access both of the isolated area 70, including applet pages 72

and the nub pages 74, and the non-isolated area 80, including the application pages 82

and the operating system pages 84) and programs operating in the non-privileged mode

have limited access to device memory and/or device functions (i.e., the normal

execution ring-0 11, including the primary operating system 12 and software drivers 13,

and hardware drivers 14, can access both of the non-isolated area 80, including the

application pages 82 and the operating system pages 84, but cannot access the

isolated area 70)(col. 4, lines 10-45 and col. 12, lines 5-41).

As per claim 2, the method of Ellison discloses the method of claim 1, wherein

the step of determining comprises testing a flag (i.e., execution code word)(col. 9, lines

32-54).

As per claim 3, the method of Ellison discloses the method of claim 1, wherein

the step of enabling only the privileged mode comprises controlling one or more device

memory management units to enable only the privileged mode (i.e., the isolated

execution mode)(col. 9, lines 15-54, where it is inherent that the processor contains a MMU to manage communications with memory).

As per claim 4, the method of Ellison discloses the method of claim 1, wherein the step of enabling both the privileged mode and the non-privileged modes comprises controlling one or more device memory management units to enable both modes (col. 2, lines 64-67 and col. 3, lines 1-67, and col. 4, lines 1-10, where it is inherent that the processor contains a MMU to manage communications with memory).

As per claim 5, the method of Ellison discloses the method of claim 1, wherein the device is a wireless device (col. 2, lines 47-67 and col. 3, lines 1-67, and col. 4, lines 1-10, where the logical operating architecture may be realized to be deployed on a laptop).

As per claim 11, the apparatus of Ellison discloses the apparatus of claim 10, wherein the means for determining comprises means for testing a flag (i.e., execution code word)(col. 9, lines 15-54 and col. 10, lines 1-50).

Regarding claim 12, the apparatus of Ellison discloses the apparatus of claim 10, wherein the means for enabling the only privileged mode comprises means for controlling one or more device memory management units to enable only the privileged

mode (col. 2, lines 64-67 and col. 3, lines 1-67, and col. 4, lines 1-10, where it is

inherent that the processor contains a MMU to manage communications with memory).

As per claim 13, the apparatus of Ellison discloses the apparatus of claim 10,

wherein the means for enabling both the privileged mode and the non-privileged modes

comprises means for controlling one or more device memory management units to

enable both modes (col. 2, lines 64-67 and col. 3, lines 1-67, and col. 4, lines 1-10,

where it is inherent that the processor contains a MMU to manage communications with

memory).

As per claim 14, the method of Ellison discloses the method of claim 10, wherein

the device is a wireless device (col. 2, lines 47-67 and col. 3, lines 1-67, and col. 4, lines

1-10, where the logical operating architecture may be realized to be deployed on a

laptop).

As per claim 16, the computer-readable media of Ellison discloses the computer-

readable media of claim 15, wherein the instructions for determining comprise

instructions for testing a flag (i.e., execution code word)(col. 9, lines 15-54 and col. 10,

lines 1-50).

As per claim 17, the computer-readable media of Ellison discloses the computer-

readable media of claim 15, wherein the instructions for enabling the only privileged

mode comprise instructions for controlling one or more device memory management units to enable only the privileged mode (col. 2, lines 64-67 and col. 3, lines 1-67, and col. 4, lines 1-10, where it is inherent that the processor contains a MMU to manage communications with memory).

As per claim 18, the computer-readable media of Ellison discloses the computer-readable media of claim 15, wherein the instructions for enabling both the privileged mode and the non-privileged modes comprise instructions for controlling one or more device memory management units to enable both modes (col. 2, lines 64-67 and col. 3, lines 1-67, and col. 4, lines 1-10, where it is inherent that the processor contains a MMU to manage communications with memory).

As per claim 19, the method of Ellison discloses the method of claim 15, wherein the device is a wireless device (col. 2, lines 47-67 and col. 3, lines 1-67, and col. 4, lines 1-10, where the logical operating architecture may be realized to be deployed on a laptop).

As per claim 21, the method of Ellison discloses the method of claim 20, wherein determining further comprising reading a flag in a memory of a device, the flag having at least two settings, wherein one predetermined setting of the at least two settings corresponds to the combined privileged and non-privileged operating mode (col. 2, lines 64-67 and col. 3, lines 1-67, and col. 4, lines 1-10 and col. 9, lines 13-67, where

configuration storage 250 stores the data that is used to assert the execution mode

word 253).

Regarding claim 22, the method of Ellison discloses the method of claim 20,

wherein enabling further comprises:

partitioning (i.e. isolating) a code memory portion of the memory of the device

into a privileged code region comprising privileged code (i.e., isolated area 70, Fig. 1B,

element 74) and a non-privileged code region comprising non-privileged code (i.e., non-

isolated area 80, Fig. 1B, element 84), and partitioning (i.e., isolating) a data memory

portion of the memory of the device into a privileged data region comprising privileged

data (i.e., isolated area 70, Fig. 1B, element 72) and a non-privileged data region

comprising non-privileged data (i.e., non-isolated area 80, Fig. 1B, element 82)(col. 4,

lines 10-45).

Regarding claim 23, the method of Ellison discloses the method of claim 22,

wherein enabling further comprises restricting operation of the non-privileged code (i.e.,

applications 1-N, Fig. 1B, element 41, and Ring-0, Fig. 1B, element 11) to the non-

privileged code region of the code memory (i.e., non-isolated area 80, Fig. 1B, element

84) and to the non-privileged data region of the data memory (i.e., non-isolated area 80,

Fig. 1B, element 82)(col. 4, lines 10-45).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see the attatched PTO-892 for a complete listing.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
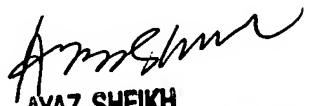
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arezoo Sherkat whose telephone number is (571) 272-3796. The examiner can normally be reached on 8:00-4:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A.S.
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June 6, 2007

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